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August 8, 2019

Mr. Ron Clamp
Memorial Design
1517 Old Dunbar Road
West Columbia, SC 29172

Re: State House portico

Dear Ron,

It was a pleasure speaking with you today and learning more about your imminent project. I appreciate you sharing the details of the project relating to the damaged granite, as well as your efforts to plot out the individual stones, their fissures, and so forth. While I have not visited the site or looked over your data first hand, the information you provided indicates that a number of the granite stones are damaged, some worse than others, but sufficiently damaged that the first impulse was to find suitable matches and replace those stones. More recently, with additional study, you believe that it will be possible to minimize the replacement stone, by reutilizing some of the stone removed and cutting it for replacement of smaller stones. You asked my professional opinion regarding this approach.

Of course, you realize that I am neither an architect nor engineer. However, I have been actively involved in stone conservation for over a decade, working with a variety of federal, state, local, and religious organizations.

Generally, the reference for work such as this is derived from the Secretary of the Interior's Standards for Preservation (there are also standards for rehabilitation, restoration, and reconstruction; but I won't go into that much detail). Four are worth discussion:

1. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.

In the ideal world, all structurally sound materials would be repaired. But, this assumes that repair is both possible and practical. I have some concerns that repair, in this case, is. There are, of course, low porosity cementitious repair mortars. Attempting the color and texture match, however, is problematic. Such stone mortars are intended to be viewed from a distance – as is common with cemetery monuments and, especially, architecture. Attempting to blend such repairs and make them blend to people walking over them is likely to be more difficult.

In addition, I would note that careful matching of the granite, coupled with reuse of what can be salvaged or cut to fit elsewhere, mitigates many of the concerns expressed by this



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standard. So, in fact, the historic character is retained and accentuated by the retention of salvageable materials.

Third, if you examine the standard for rehabilitation (which is, after all, what is being proposed, especially after a previous repair effort), it notes, "The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided." This you are doing.

Fourth, the standard for reconstruction specifies that the work will "include measures to preserve any remaining historic materials." This is absolutely being done with the reuse of all suitable materials. To further enhance this, I recommend that ALL fragments not being reused should be crated and returned to the building's custodians as it may be critical for future repairs (for example, perhaps being suitable for Dutchman repairs on the façade).

2. Each property will be recognized as a physical record of its time, place and use. Work needed to stabilize, consolidate and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection and properly documented for future research.

It appears to me that you are doing an excellent job in documenting your actions. I hope that this documentation will be prepared for archival storage by General Services or perhaps the South Carolina Department of Archives and History. It is a shame that such information, as I understand it, is not available for the previous work.

3. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color and texture.

You have performed an evaluation and made a determination of features that are best replaced. As I have mentioned, it will be far easier (and I believe appropriate) to match the old granite in composition, design, color, and texture, by the re-use of existing granite than an effort to replace. It is notoriously difficult to obtain convincing matches from quarries, especially so over a hundred years after the original work was done. Not only is the stone likely different, but the new stone will not have the patina of the old – and there is no effective way to artificially age the new materials.

4. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible.

I believe that retention of any old material (rather than replacement with new materials or various mortars or grout) is the best approach to using the gentlest means possible.

Obviously, there are always differences of opinion regarding conservation issues and, in general, there is no "right" or "wrong" approach. It is my professional opinion, however, that the approach you suggest is consistent with the Secretary of the Interior's Standards.

I offer only three additional recommendations, the first two of which I have already mentioned. The first is that all removed granite that is considered waste, be carefully crated and turned over to the building's custodians for potential use in the future.

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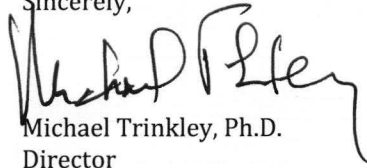
The second recommendation is that all documentation (photographs, GPR, notes, etc.) be delivered to the building's custodians, perhaps with a second copy to the S.C. Department of Archives and History for permanent retention.

Both of these steps will be greatly appreciated by conservators in the future and I am certain that the building will require future interventions.

The third recommendation, which is subsidiary to the other comments, is that in replacing the granite, you may want to consider an alternative to OPC. Such materials is a bane to preservation work in general. Perhaps a material such as natural hydraulic lime 5.0 in a 1:2 mix would be a suitable replacement. In any event, I would consult with the project engineer and architect concerning this issue; they may be unwilling to attempt something different.

I hope these observations are of use and please feel free to call should I be able to offer any further service.

Sincerely,



Michael Trinkley, Ph.D.
Director

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